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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte ALAN SCOTT HODES*

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Appeal 2009-012106  
Application 10/788,532  
Technology Center 2100

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Before KRISTEN L. DROESCH, KALYAN K. DESHPANDE and  
DAVID M. KOHUT, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

Appellant seeks review under 35 U.S.C. § 134(a) of a final rejection of claims 1-25. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM-IN-PART and enter a new ground of rejection.

## BACKGROUND

The invention generally relates to analysis of patents and patent claims. Spec. ¶ 4; Abs. The invention includes steps and elements for comparing patent claims to instances, such as described embodiments, prior art references, or potentially infringing products. Spec. ¶¶ 37-41; Figs. 3-5. The comparison can employ an ontology, which is a resource containing knowledge regarding concepts and relationships among the concepts. Spec. ¶¶ 31, 35. Thus, a claim and an instance can be mapped to the ontology by determining a correspondence between portions of the claim and portions of the instance to the concepts in the ontology. Spec. ¶¶ 38-40. The mappings can then be processed to make a determination of whether the instance and the claim read on each other. *Id.* Further, based on the nature of the claim and instance under analysis, the determination can indicate whether an instance renders the claim invalid, renders the claim unpatentable or infringes the claim. Spec. ¶¶ 38-40.

Claim 1 is illustrative and is reproduced below:

1. A method of analysis regarding at least one patent claim, comprising:
  - a) determining a correspondence of the portions of the at least one patent claim to the concept nodes of an ontology;
  - b) determining a correspondence of the portions of at least one instance to the concept nodes of the ontology; and

c) processing the determined correspondence of the portions of the at least one patent claim and the determined correspondence of the portions of the at least one instance;

wherein a result of processing the determined correspondence of the portions of the at least one patent claim portions and the determined correspondence of the portions of the at least one instance includes a determination of whether the at least one instance reads on the at least one patent claim.

The following claims are rejected as unpatentable under 35 U.S.C. § 103(a) over the applied prior art as follows:

claims 1-5, 11-14, and 18-25 over Roux (US 2002/0111941 A1) and Stobbs (US 2004/0181427 A1);

claims 6-10 over Roux, Stobbs, and Copperman (US 6,711,585 B1); and

claims 15-17 over Roux, Stobbs and Sheremeteva (*Generating Patent Claims from Interactive Input*, 8th Int'l Natural Language Generation (INLG) Workshop Proceedings 61-70 (1996)).

## ISSUE

Did the Examiner err in determining that the claimed invention would have been obvious to one with ordinary skill in the art at the time of the invention in view of the combined teachings of the prior art?

## ANALYSIS

### *Claims 1-5, 11-14 and 18-25*

Independent claim 1 recites: “a) determining a correspondence of the portions of the at least one patent claim to the concept nodes of an ontology; b) determining a correspondence of the portions of at least one instance to the concept nodes of the ontology; and c) processing the determined

correspondence of the portions of the at least one patent claim and the determined correspondence of the portions of the at least one instance . . . .” Independent claims 13, 14 and 21 recite identical or substantially similar limitations as sections a) through c) of claim 1.

The Examiner finds that Roux’s description of a method that includes generating correspondences between documents to be retrieved, queries and a semantic lattice meets limitations a) and b) recited in claim 1. Ans. 4 (citing Roux ¶¶ 38-41, 52, 75). The Examiner further finds that Roux’s description of processing the two sets of correspondences to retrieve documents meets the limitation in section c) of claim 1, which describes processing the correspondences from the two determining steps recited in limitations a) and b). Ans. 5 (citing Roux ¶¶ 41-43).

Indeed, Roux describes an apparatus and method for retrieving documents in response to queries. Roux ¶ 41. The retrieval includes preprocessing the documents and queries into internal representations, or graphs, which express the syntactic relationships among terms contained in the documents and queries. Roux ¶¶ 38-40, 52. Roux projects the graph of a query onto a document and subsequently calculates a similarity between the graphs. Roux ¶¶ 41, 75. The similarity includes syntactic similarity and semantic similarity. Roux ¶¶ 75, 76. The semantic similarity utilizes a semantic lattice that reflects similarities between terms used in the documents and the queries. Roux ¶¶ 41, 91-95. The semantic similarity between terms is computed by identifying the relative positions between the document’s terms and the query’s terms within the semantic lattice. Roux ¶ 92. For example, Roux determines whether the semantic lattice specifies terms as semantically identical or merely related, such as, terms that are

synonyms or related through a super-ordinated term. Roux ¶ 92. Roux’s process further includes ranking and retrieving documents having the highest degree of similarity to a query. Roux ¶ 41. Roux does not limit the process to any particular field of use, instead suggesting a general use in retrieving documents in a database. Roux ¶ 2. Moreover, Roux specifies that its process provides a “core-basis for a large set of tools designed to perform knowledge management.” Roux ¶ 100. The Examiner recognizes the flexibility of Roux’s process by finding that the textual analysis described by Roux could equally apply to patent claims. Ans. 4.

The Examiner further finds that Stobbs describes the processing results recited in the “wherein” clauses of independent claims 1, 13, 14 and 21. Namely, Stobbs describes determining whether an instance reads on, invalidates, infringes or renders unpatentable a patent claim. In support of this finding, the Examiner finds that Stobbs describes a product coverage/infringement analysis module 188 for determining whether instances read on or infringe a patent claim. Ans. 5 (citing Stobbs ¶¶ 107-109, Abs., Fig. 9). The Examiner also finds that Stobbs describes a validity analysis module 190 for determining whether instances read on or invalidate a patent claim. *Id.* Stobbs’ product coverage/infringement analysis module 188 utilizes an Internet search engine 186 to retrieve webpages containing keywords extracted from patent claims or descriptions of products covered by a claim. Stobbs ¶ 108. Similarly, validity analysis module 190 uses Internet search engine 186 to retrieve webpages containing keywords extracted from patent claims. Stobbs ¶ 109. The retrieved webpages include the most likely candidates for possible infringement of the claims at issue. Stobbs ¶¶ 108, 109.

The Examiner determined that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Roux and Stobbs in order to utilize Stobbs' teachings to improve Roux's method, such that Roux's information retrieval process would include the discovery of documents, products or product descriptions that validate, invalidate or infringe a patent claim. Ans. 5 (citing Stobbs ¶¶ 107-109; Abs.; Fig. 9). In other words, the Examiner determined that one of ordinary skill at the time of the invention would have found it obvious to apply Roux's generic document retrieval steps to the specific context of patent claim analysis suggested by Stobbs. *See* Ans. 4-5. Thus, according to the Examiner's proposed modification, Roux's document retrieval feature would be utilized to process claims and instances to determine whether a query/document reads on, invalidates or infringes a patent claim. *See* Ans. 5.

Appellant first argues that, contrary to the Examiner's findings, Roux does not disclose limitations a) through c) of independent claim 1. Br. 6-7. Rather, Appellant asserts that Roux discloses a genus of text analysis, while the claimed invention requires a species of patent claim analysis. Br. 7-8. More specifically, Appellant asserts that claim analysis is a species of text analysis since claim analysis requires element-by-element determinations relative to patentability, invalidity and infringement. *Id.*

We do not agree with Appellant's genus-species argument directed to the teachings of Roux alone. The rejection does not rest on a mere finding that the analysis of text and the analysis of patent claims are related as genus-species. The rejection is based on the combined teachings of Roux and Stobbs, as explained immediately above. One cannot show nonobviousness by attacking references individually where the rejections are

based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *In re Keller*, 642 F.2d 413, 426 (CCPA 1981). For the same reasons, we disagree with Appellant’s assertion that Roux’s disclosure of processing text would not render obvious processing claims. Br. 6.

Second, Appellant argues that the rejection relies on an improper obvious-to-try rationale because the Examiner asserted that “any operation that can be performed on a text document can also be performed on the text of a patent claim.” Br. 7 (citing Final Rejection 18). We do not agree with Appellant’s characterization of the rejection as based on an obvious-to-try rationale. Rather, the Examiner determined that one of ordinary skill in the art at the time of the invention would have found it obvious to adapt Roux’s generic textual analysis to the specific field of patent claim analysis suggested by Stobbs. The combination of Roux and Stobbs is no more than the application of a technique used to improve one device (i.e., Roux’s textual analysis) to a similar device (i.e., Stobbs’ patent claim analysis). *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“[I]f a technique has been used to improve one device [or method], and a person of ordinary skill in the art would recognize that it would improve similar devices [or methods] in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”). Furthermore, we are unpersuaded by Appellant’s argument that an obvious-to-try rationale is improper. In *KSR*, the Court stated:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads

to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

*Id.* at 421. Appellants do not direct us to objective evidence to demonstrate that the combination of Roux and Stobbs would yield anything more than a predictable result.

Third, Appellant challenges the relevance of Stobbs' description to the limitations recited in the "wherein" clauses of independent claims 1, 13, 14 and 21. App. Br. 8-9. Specifically, Appellant asserts that Stobbs' module 188 does not determine infringement according to the steps of the claimed invention. App. Br. 8. To support this assertion, Appellant notes the absence of a description in Stobbs of an ontology, correspondences to the ontology and the processing of the correspondences. *Id.*

Appellant's arguments are unpersuasive because the rejection does not rely on Stobbs alone to describe an ontology, correspondences or processing of the correspondences. Rather, the rejection is based on the combined teachings of Roux and Stobbs. Again, one cannot establish nonobviousness by attacking a single reference, when obviousness is based on a combination of teachings from multiple references. *Merck; Keller*. Here, the rejection is premised on finding Roux's textual analysis invention to be a flexible tool that can process claims just as well as other forms of text. Moreover, the rejection relies on Stobbs to establish patent claim analysis as a potential field of use for Roux's textual analysis tool. Appellant does not sufficiently demonstrate how the foregoing features of Stobbs fail to suggest the concept of an automated patent claim analysis that compares patent claims to textual instances that may infringe or invalidate the patent claims.

For all the foregoing reasons, we sustain the rejection of claims 1-5, 11-14 and 18-25 as obvious over Roux and Stobbs.

*Claims 6-10*

Claim 6 ultimately depends from claim 1 and further recites: “determining whether there is a one to one correspondence between concept nodes in the claim records and concept nodes in the instance records.” Appellant alleges that the Examiner erred in finding the Copperman describes the limitations of claim 6. Br. 9-10. Appellant’s allegation rests on two premises: (1) Copperman does not disclose “claim records” and (2) Copperman does not disclose a one to one correspondence between concept nodes of an instance record and a claim record. *Id.*

We are not persuaded by Appellant’s arguments because they merely point out the differences between the claimed invention and Copperman, rather than addressing the combined teachings of the references. *Merck; Keller*. The rejection relies on Copperman to establish two basic premises that one with ordinary skill in the art would have recognized at the time of the invention. First, Copperman establishes prior art knowledge of taxonomic searches by matching a query to concept nodes in a knowledge container (much like Roux’s text analysis). Ans. 12 (citing Copperman col. 2, ll. 53-59). Second, Copperman shows prior art knowledge of a one to one correspondence between records and concept nodes within taxonomies. Ans. 12 (citing Copperman col. 15, ll. 8-11). The Examiner’s findings from Copperman are taken in conjunction with the previous determination that it would have been obvious to apply Roux’s text analysis to the field of patent claim analysis. Ans. 4-5, 11-12. Specifically, the Examiner determined that it would have been obvious to apply Roux’s text analysis method to make

several determinations, such as whether an instance reads on, infringes or invalidates a patent claim. Ans. 4-5. Moreover, each determination of whether an instance reads on, infringes or invalidates a patent claim is an example of determining a one to one correspondence. *See MPEP § 2131; Spec. ¶ 7* (citing Chisum on Patents § 3.02(1)); App. Br. 10 (admitting that a one to one correspondence “would typically be required” for determining whether an instance invalidates or infringes a claim). Thus, we agree with the Examiner that the use of a one to one correspondence would have been an obvious expedient for determining whether an instance reads on, infringes or invalidates a patent claim.

For all the foregoing reasons, we sustain the rejection of claims 6-10 as obvious over Roux, Stobbs and Copperman.

*Claims 15-17*

Claim 15 depends from independent claim 14 and further recites: “determining a correspondence of the portions of an embodiment to the concept nodes of the ontology; and processing the determined correspondence of the embodiment portions and formulating the at least one patent claim based at least in part thereon.” Claim 17, also dependent from claim 14 recites nearly identical limitations.

Appellant asserts that the rejection failed to show how one of ordinary skill could have combined the teachings of Roux, Stobbs and Sheremetyeva to formulate a claim and then analyze the claim against the prior art as required by claim 15 when read in conjunction with claim 14. App. Br. 10. Countering this assertion, the Examiner finds that the claim is limited to generating a new claim, but not analyzing the new claim against the prior art. Ans. 27-28.

We agree with Appellant's argument. Claims 15 and 17 each recite, "formulating the at least one patent claim" (emphasis added). Claim 14 provides antecedent basis for "the at least one patent claim" in the preamble. The body of claim 14 further specifies steps for processing "the at least one patent claim" in order to determine whether the claim is rendered invalid or unpatentable by the prior art instance. Accordingly, we construe claims 15 and 17 as requiring the formulation of at least one patent claim and including the processing of that patent claim according to the limitations of claim 14. In contrast to construing claims 15 and 17 as incorporating the limitations of claim 14 from which they depend, the Examiner states that the rejection is merely premised on generating a new claim without processing the new claim. Ans. 27-28. Thus, the Examiner does not sufficiently demonstrate where or how all limitations of claims 15 and 17 are taught or suggested by the cited prior art.

For all the foregoing reasons, we do not sustain the rejection of claims 15 and 17 as obvious over Roux, Stobbs and Sheremetyeva. Since claim 16 depends from claim 15, we do not sustain the rejection of claim 16 as obvious over Roux, Stobbs and Sheremetyeva for the same reasons.

#### NEW GROUND OF REJECTION

We enter a new ground of rejection pursuant to our authority under 37 C.F.R. § 41.50(b). Claims 1, 13 and 14 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

In accordance with § 101, there are four categories of patent eligible subject matter: processes, machines, manufactures and compositions of matter. *Bilski v. Kappos*, 130 S.Ct. 3218, 3225 (2010). Furthermore, the Supreme Court has delineated several exceptions that constitute

unpatentable subject matter outside the scope of § 101; one such exception includes abstract ideas. *Id.*

Claims 1, 13 and 14 are directed to mental processes which constitute an unpatentable abstract idea. Our reviewing courts have “refused to find processes patentable when they merely claimed a mental process standing alone and untied to another category of statutory subject matter even when a practical application was claimed.” *In re Comiskey*, 554 F.3d 967, 979 (Fed. Cir. 2009) (*en banc*); accord *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011). Claims 1, 13 and 14 do not expressly or implicitly require the method to be performed by any machine, nor do the claims require a transformation of a physical object or data. Rather, claims 1, 13 and 14 merely recite steps that can be performed in the human mind. Specifically, the claims recite determining and processing steps involving patent claims, instances and concepts nodes of an ontology without limits on the manner or components with which one should perform the steps. Moreover, Appellant’s written description does not limit the patent claims, instances and concepts nodes of an ontology to those which can only be generated by a machine or processed by a machine. Indeed, patent claims and instances include textual or graphical expressions of ideas, namely, inventions. Spec. ¶¶ 24-29, 39. An ontology, according to Appellant’s Specification, is any type of resource (including non-physical resources) that contains concepts and their relationships. Spec. ¶ 35. The correspondences recited in the claims further represent relationships, or mappings, between concepts in a claim and concepts in an ontology. Spec. ¶¶ 38-39. Accordingly, Appellant’s claims 1, 13 and 14 are directed to a process that can be performed entirely in the human mind.

We further note that the broad language of Appellant's claims preempts the fundamental concept of claim analysis. *See Bilski*, 130 S.Ct at 3231 (finding that claims that cover the basic economic concept of hedging would preempt the use of the concept in all fields). Indeed, claims 1, 13 and 14 broadly cover several of the basic mental steps of patent examination, such as understanding what was invented, determining the state of the prior art, construing the scope of a claim and comparing the scope of the claim to the prior art to determine anticipation and obviousness. See, e.g., MPEP §§ 704, 706, 706.02, 2111, 2131 (describing the examination process for construing, searching and rejecting patent claims that are anticipated by the prior art). Appellant's claims would preempt patent claim analysis in all fields where such analysis would be applied, including patent prosecution, patent litigation and patent licensing.

Although we decline to reject every claim under our discretionary authority under 37 C.F.R. § 41.50(b), we emphasize that our decision does not mean the remaining claims are patentable. Rather, we leave the patentability determination of the remaining claims to the Examiner. *See* MPEP § 1213.02. With this in mind and should there be further prosecution with respect to claims 2-12 and 15-25, the Examiner's attention is directed to *Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of Bilski v. Kappos*, 75 Fed. Reg. 43,922 (July 27, 2010); Memorandum to the TC Directors regarding *New Interim Patent Subject Matter Eligibility Examination Instructions*, (August 24, 2009), available at [http://www.uspto.gov/web/offices/pac/dapp/opla/2009-08-25\\_interim\\_101\\_instructions.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/2009-08-25_interim_101_instructions.pdf).

## DECISION

We AFFIRM the rejection of claims 1-5, 11-14 and 18-25 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Roux and Stobbs.

We AFFIRM the rejection of claims 6-10 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Roux, Stobbs and Copperman.

We REVERSE the rejection of claims 15-17 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Roux, Stobbs and Sheremetyeva.

We enter a new ground of rejection for claims 1, 13 and 14 under 35 U.S.C. § 101 as directed to non-statutory subject matter.

## TIME PERIOD

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 CFR § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2009-012106  
Application 10/788,532

AFFIRMED-IN-PART  
37 C.F.R. § 41.50(b)

ELD